LG&E and KU Outage Improvements

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”Ike and Ice”

LG&E and KU experienced two worst storms in their history within six months of each other:

September 2008 — Hurricane Ike

375,000 LG&E/KU outages

February 2009 — Ice Storm

404,000 LG&E/KU outages

Post-storm reviews

Internal review

Areas of Improvement
- Undergrounding
- System Hardening
- Customer Communications

Customer Communications

Customer communication has become almost as important as the restoration.

In today's technological age, customers want information immediately.

Customers expectations have changed due to:

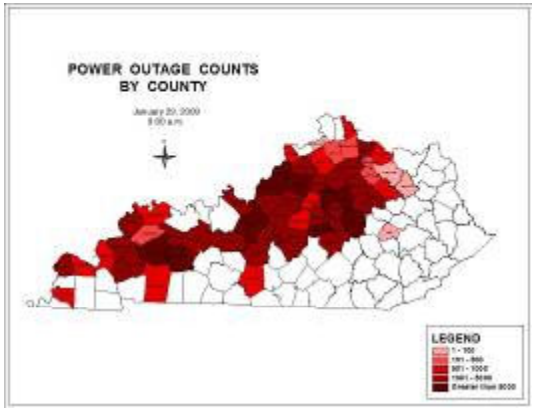
- More timely information
- Internet access, e-mail, texting
- Emerging technologies, e.g., Twitter, Facebook, other social networks
- Customers need timely and accurate estimated restoration times (ERT) to make personal and business decisions.

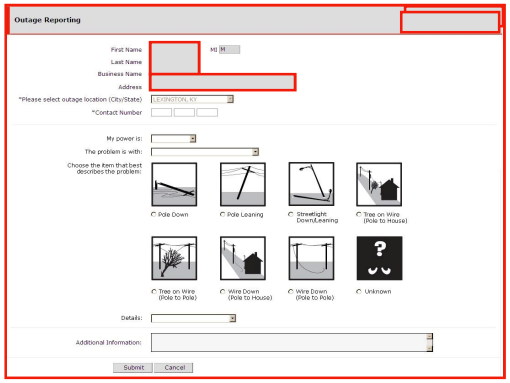
2009 Improvements

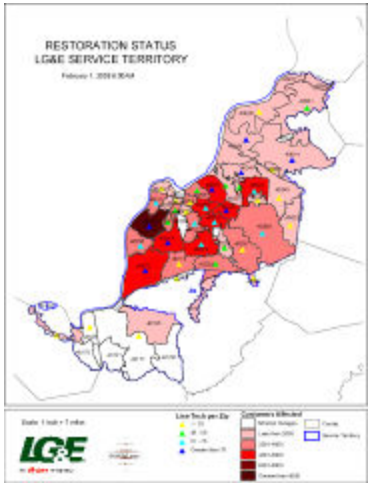
Added online maps for major events
- Outage maps by zip code and counties
- Restoration maps with general crew locations

Online customer outage reporting

Using Twitter — **www.twitter.com/eonus**







2010 Planned Improvements

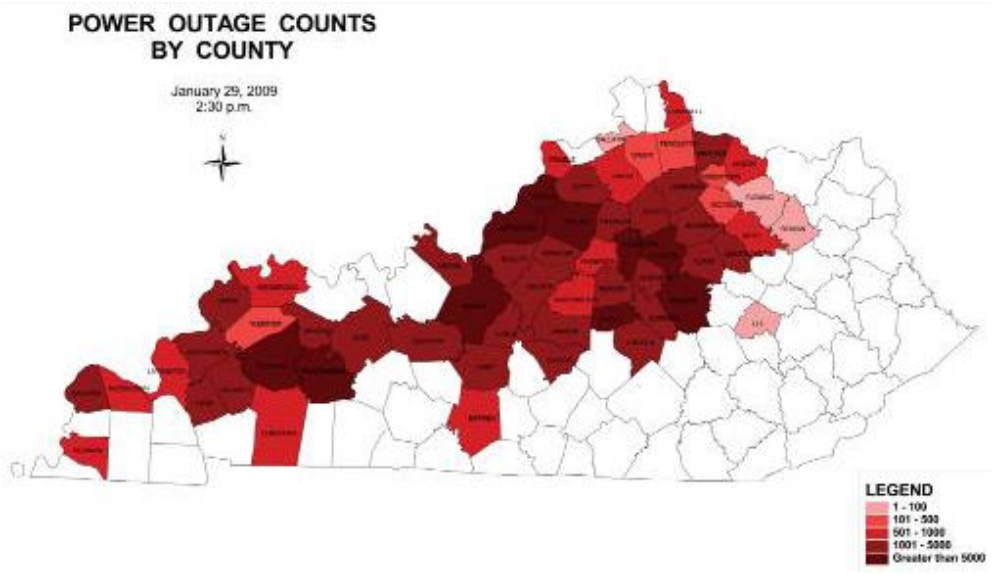
Provide estimated restoration times (ERT) during major storm events

- Enhanced focus on ERTs
- Local level with accuracy to the day
- Improve IT infrastructure to aid in communication of ERTs

Implement real-time online outage maps

- Outage information
- Estimated restoration times

New ways to reach customers such as texting and e-mail

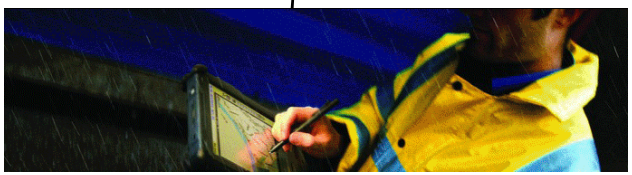


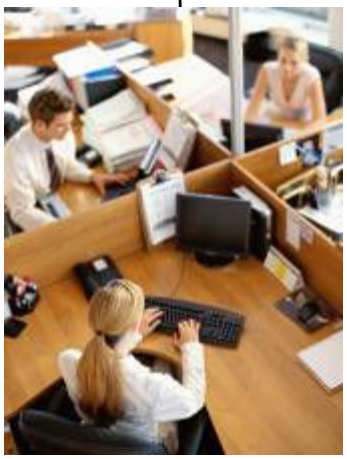
Improvements Beyond 2010

Streamline Communications to/from Field Crews

Mobile technology for damage assessments, dispatch and estimated restoration times

- reduce radio congestion
- improve customer communication





Underground vs. Overhead

Advantages

- Improved aesthetics
- Less weather dependent
- Not subject to vegetation issues
- Fewer outages

Disadvantages

- Very costly — Distribution, $24 billion; Transmission, $40 billion; Residential bill increase more than $300 per month
- Cost to bury CATV, phone and other utilities is additional
- Customer will pay cost of home modifications
- Visual inspection is impossible, making repair more difficult, costly and time-consuming
- Outages can last longer

Typical Underground Installation

Above: Underground pad mount transformer at the home

Right: Typical structure at end of neighborhood underground circuit

Portions of River Road/Indian Hills/Glenview

Overhead circuit along Brownsboro road.

One of nine circuits feeding this area.

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Portions of River Road/Indian Hills/Glenview

Cost to bury: $15.8 million

Customers: 1,241

Cost per customer: $12,700

Considerations: Low density, low traffic flow, mix of large and small lots, normal right-of-way with probable rock

Vegetation: Heavy trees

Portions South of Rubbertown including Lake Dreamland

Cost to bury: $13.3 million

Customers: 916

Cost per customer: $15,500

Considerations: Low density, mostly residential, low traffic flow, small front lots, normal right-of-way and easements

Vegetation: Low number of trees

Portions of Cherokee Triangle and Bardstown Road

Cost to bury: $22 million

Customers: 2,983

Cost per customer: $7,400

Considerations: High density, large number of businesses, high traffic flow, mostly small front lots, limited right-of-way and easement

Vegetation: Heavy with mature trees

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Davies Consulting

Hired an independent firm to study:
strengthening — "hardening" — our system

Davies Consulting (www.daviescon.com) is an industry leader in assessing system hardening and has worked with a number of major utilities throughout North America including:

AEP
Duke Power
Florida Power and Light
Oklahoma Gas and Electric
Pepco Holdings
Progress Energy
Toronto Hydro
Seattle City Light

System Hardening

Definition: Strengthening the electric delivery system to better withstand major catastrophic weather events.

- Aggressive tree trimming
- Stronger poles
- Bigger wires
- Smaller clusters of customers

System Hardening

System Hardening

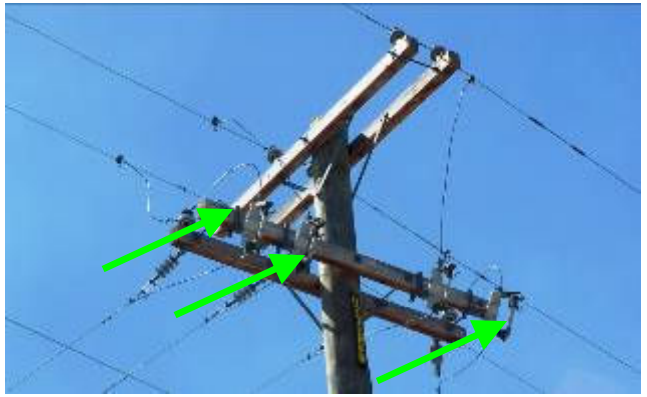
Expanded right-of-way

Off-ROW Tree Hazard

System Hardening

System Hardening

Reclosers



Fuse protection

Lightning arrestors

Conclusion of Davies Consulting Hardening Report

Undergrounding the entire system is prohibitively expensive.

EON U.S. should consider hardening its electric system.

E.ON U.S. should evaluate the willingness of its customers to support a hardening program and determine the appropriate level of spend.

At the appropriate level of funding, the overall hardening program should include:

- Service Connection Undergrounding Pilot
- System-wide Hazard Tree Removal
- Circuit Hardening Program

What Customers Say…

Something should be done

94 percent believe in the importance of outage prevention

Most approve of hardening alternatives

83 percent approve of tree trimming to prevent outages

71 percent approve of strengthening lines/poles

Most are willing to pay $1 to $2 per month for hardening

79 percent $1 per month or more

56 percent $2 per month or more

Unwilling to pay for more expensive undergrounding

39 percent willing to pay $20 per month

3 percent willing to pay $40 – $60 per month